

REMARKS

Claims 1-6 are pending in the present application and stand rejected. In response, Claims 1 and 3 are amended, no claims are cancelled and no claims are added. Applicant respectfully requests reconsideration of pending Claims 1-6 in view of at least the following remarks.

I. Claims Rejected Under 35 U.S.C. §103(a)

The Examiner has rejected Claims 1-6 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,469,663 issued to Whitehead (“Whitehead”) in view of U.S. Patent No. 5,877,725 to Kalafus (“Kalafus”). Applicant respectfully traverses this rejection.

Regarding Claim 1, Claim 1 recites the following claim features, which are neither taught nor suggested by the prior art combination of Whitehead in view of Kalafus:

1. A digital broadcasting receiver having a Differential Global Positioning System (DGPS) Radio Technical Commission for Maritime Service (RTCM) data output port, the receiver comprising:
 - a radio frequency processing means for receiving digital broadcasting signals including encoded multimedia data and encoded DGPS data and converting the received signals into baseband data;
 - a decoding means for decoding the baseband data to generate decoded data including decoded multimedia data and decoded DGPS data;
 - a DGPS information extractor means for extracting a DGPS information from the decoded DGPS data which is one of the decoded data; and
 - a RTCM104 formatting means for converting the DGPS information into RTCM104 data which is compatible with the DGPS RTCM data input port and outputting the RTCM104 data through the DGPS RTCM data output port. (Emphasis added.)

While Applicant’s argument is directed to the cited combination of references, it is necessary to first consider their individual teachings, in order to ascertain what combination (if any) could be made from the cited references.

Whitehead is generally directed to a rover GPS receiver 103 that computes a geographical location of the rover GPS receiver 103 relative to a fixed geographical location 106 of a GPS reference receiver 102, and provides data for a location vector in a user output signal 118 to provide enhanced real-time Kinematic positioning (RTK) (see FIG. 3, col. 2, lines 36-39)

using the wide array augmentation system (WAAS) (see col. 5, lines 34-39). In contrast with Claim 1, Whitehead does not disclose or suggest a digital broadcasting receiver that comprises a radio frequency processing means for receiving a digital broadcast signal including encoded multimedia data and encoded DGPS data, as in Claim 1. Whitehead does disclose rover GPS receiver 103 that computes a geographical location of the GPS receiver 103 relative to a fixed geographical location 106 of the GPS reference receiver 102, which provides data for a location vector in a user output signal 118 to provide enhanced RTK WAAS (see Supra), however, that is something completely different from a digital broadcasting receiver that comprises a radio frequency processing means for receiving a digital broadcast signal including encoded multimedia data and encoded DGPS data, as in Claim 1.

Regarding the Examiner's citing of Kalafus, Kalafus discloses a GPS WAAS retrofit receiver 402 adapted to translate WAAS messages into RTCM SC-104 standard messages and transmit the messages to an external GPS receiver 401 using a communications link 405 to enable the external GPS receiver 401 to use the WAAS messages without modification. (See FIG. 4 and col. 7, lines 6-14.) However, the combination of Whitehead and Kalafus does not disclose a digital broadcasting receiver that comprises radio frequency processing means for receiving "digital broadcast signals including encoded multimedia data and encoded DGPS," much less "a decoding means...to generate decoded data including decoded multimedia data and decoded DGPS data," as in Claim 1.

Further, the combination of Whitehead and Kalafus does not provide any motivation for a digital broadcasting receiver that comprises "a radio frequency processing means for receiving a digital broadcast signal including encoded multimedia data and encoded DGPS data" and "a decoding means...to generate decoded data including decoded multimedia data and decoded DGPS data," as in Claim 1. In contrast to Claim 1, Whitehead and Kalafus are limited to GPS/DGPS receivers that receive GPS/DGPS signals transmitted as L1/L2 band radio signals and a retrofit GPS/WAAS receiver that receives a WAAS signal transmitted as an L1 band radio signal. As a result, the combination of Whitehead in view of Kalafus cannot teach or suggest a digital broadcasting receiver that comprises "a radio frequency processing means for receiving a digital broadcast signal including encoded multimedia data and encoded DGPS data," as in Claim 1.

According to the Examiner, it would be obvious to modify Whitehead to incorporate the teachings of Kalafus' system for converting DGPS information into RTCM 104 data to enable the terminal to perform position information based on RTCM 104 data for more accuracy. (See pg. 3 of the Office Action.) However, neither the passages of Kalafus referred to by the Examiner, (specifically col. 3 lines 9-42) nor any other portion discloses the conversion of DGPS information into RTCM 104 data. The passages referred to by the Examiner describe an RTCM radio demodulator 302 that receives RTCM differential corrections that are demodulated by the RTCM radio demodulator and passed to the RTCM compatible DGPS receiver via a communications port 303. (See col. 3, lines 24-31 and FIG. 3.)

Moreover, as further described by Kalafus, WAAS signals are not compatible with typical RTCM compatible DGPS receivers, such as shown in FIG. 3. As a result, Kalafus discloses DGPS retrofit receiver 402, as shown in FIG. 4, that is adapted to translate a WAAS message into an RTCM SC-104 standard message and transmits the messages to external RTCM compatible DGPS receiver 401 via a communications link 405. (See col. 4, lines 23-27 and 44-47.) In addition, since WAAS messages, by themselves are not sufficient to determine translated RTCM differential correction messages, the retrofit receiver 402 receives GPS signals in addition to WAAS differential correction signals. (See col. 7, lines 15-18.)

We submit that both Whitehead and Kalafus are limited to the use of a GPS receiver which may be either a retrofit receiver 402, as disclosed by Kalafus, or a reference GPS receiver 102, as disclosed by Whitehead, to demodulate a WAAS signal. As a result, Whitehead and Kalufus cannot solve the problem of the claimed invention which is the receipt of DGPS data without requiring an additional GPS receiver.

Hence, no combination of Whitehead in view of Kalafus can disclose, teach, or suggest a digital broadcasting receiver that comprises "a radio frequency processing means for receiving digital broadcast signals including encoded multimedia data and encoded DGPS," much less "a decoding means...to generate decoded data including decoded multimedia data and decoded DGPS data," as in Claim 1.

For each of the above reasons, therefore, Claim 1, and all claims which depend from Claim 1, are patentable over the combination of Whitehead in view of Kalafus as well as the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 1 as well as dependent Claim 2.

Each of Applicants and their independent claims include limitations similar to those highlighted in Claim 1, as discussed above. Therefore, all of Applicants other independent claims and all claims which depend on them, are also patentable over the cited art, for similar reasons. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 3 as well as dependent Claims 4-6.

DEPENDENT CLAIMS

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicant's silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.


CONCLUSION

In view of the foregoing, it is submitted that all pending claims, as amended, patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,


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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.

 2/28/08
Elaine Kwak Date